

# Pentalfa - Challenges in Creating OpenCourseWare at the Faculty of Medicine, Leuven University

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## Abstract

Our paper elaborates on the experiences, challenges and thresholds in publishing Pentalfa as an Open Online Course. In 2012 KU Leuven (Belgium) started publishing OpenCourseWare. Despite the fact that this project is in a pilot phase, some conclusions can already be drawn from the experiences of publishing OCW.

By opening up its education KU Leuven tries to play the role it is expected to play in society, e.g. that of a knowledge producer and disseminator. This perspective has guided our choice of courses to include in the project: OCW KU Leuven stands for socially relevant content generating debates about important topics in society.

Pentalfa, the LifeLong Learning program of the Faculty of Medicine at KU Leuven, is a series of lectures given by experts (doctors, researchers, practitioners,...) in the various fields of the domain of Medicine. Every lecture is recorded and it goes without saying that speakers need to give permission to do so. For a number of reasons this issue is more difficult to tackle than we could foresee.

Another important issue is privacy of patients. It is obvious that it is not allowed to show to a broad public patients identifiable in the audiovisual materials that are recorded during consultations at a doctor's office. This however poses some challenges when making course materials hitherto confined to the immediate clinical situation available through OCW, and requires very careful editing.

The paper presented describes the way we try to deal with these issues and we conclude by formulating some 'lessons learned'.

**Keywords:** OCW, OpenCourseWare, Pentalfa

## Introduction

In 2012 the University of Leuven (KU Leuven, Belgium) started publishing OpenCourseWare, defined by the OpenCourseWare Consortium as "a free and open digital publication of high quality colleges and university-level materials. These materials are organized as courses, and often include course planning materials and evaluation tools as well as thematic content. OpenCourseWare are free and openly licensed, accessible to anyone, anytime via the internet" (OpenCourseWare Consortium, 2012). Despite the fact that OCW KU Leuven is still in a pilot phase we can already draw some conclusions from our experiences during the past 1.5 year of opening up our education. In the first part of this paper we will elaborate on the current situation of OCW KU Leuven and on the choices we made when developing our OpenCourseWare. The second part of the paper focuses on what Pentalfa is and on the role it takes in the Flemish continued education for physicians and doctors. In a final part we will come to our experiences in the attempts to publish the Pentalfa series openly.

## OCW KU Leuven: What, Why And How?

At the time of writing five fully functional open courses are online on the OCW KU Leuven website: three in English and two in Dutch. They are meant as part of the open course portfolio which will be one of the results of the educational project that OpenCourseWare KU Leuven currently is. During the time period of the project we allow ourselves to experiment with the use and production of open courses. Hence we will have some experience with open courses once they will be structurally embedded in the education that KU Leuven has to offer.

### *Content and structure of the open courses*

Every course is built following more or less the same structure, starting with a homepage containing a description of the most important information of the course, i.e. the content. More detailed information about the course can be found on the page that follows the homepage. The content of the course is elaborated more, as well as the learning outcome and required and/or recommended prior knowledge. The next page in the course website is the course specific study guide. Further in this article a more comprehensive paragraph can be found on the use and development of course specific study guides. After the informing part of the course wherein the student can focus on his expectations about the course, the actual content of the course is presented. We chose to divide every open course into modules. By doing so, we offer students the possibility to take only a part instead of the entire course: one can run through the module of his interest without being obliged to take the whole course.

The modules of the open courses consist of the Open Educational Resources (OERs) that are aiming to teach the student the content of the course. These resources could be almost anything: videos, web lectures (fully recorded lectures using KU Leuven's video streaming system named Videolab), texts, audio, hyperlinks... This content is offered by the professors and teachers of the regular course as taught at KU Leuven's 'regular' students.

When a student ran through every module of a course, there is a great chance that he wants to know whether he meets the learning outcome. Therefore some courses are provided with a self-evaluating test. It depends on the type of the course and on the wishes of the course's author what the evaluation looks like and whether there is one, but in general we try to offer the students several closed questions in the form of true/false, yes/no, multiple choice,... After a student completes the test, he can compare the answers he gave with the correct answer, ideally complemented with an explanation on why this is the correct answer, or with an insight on the solution strategy he could have followed.

### *The pedagogical role that OpenCourseWare plays in KU Leuven's education*

OpenCourseWare aims at several target groups (see below) and the 'regular' KU Leuven students are one of them. Although the open courses are not an exact copy of the 'regular' courses (e.g. the level of the learning outcome or the number of modules may differ between the two versions), we notice in this initial phase of the project that professors refer their students to the open education resources. For example, one professor uses the web lectures and course text to flip his classroom. The concept of the flipped classroom can be described as the inversion of the places where certain learning activities take place (Baker, 2000). In traditional education the content is offered within the classroom, and the processing of the knowledge, the (ideally deep level) learning, to be done by the student after he acquired the content, takes place outside the classroom. The flipped classroom reverses this process: acquiring the content is done outside the walls of the classroom, mostly by using technological resources, and in the classroom social and deep level learning: students can interact with each other on the learning content that was offered prior to the lesson.

As stated above the open courses are offered apart from the regular courses at university. The learning management system that is used for the 'regular' courses is Blackboard. Within this closed

learning environment there are a lot of copyrighted materials and where the privacy of people (whether they are students, faculty members, patients, etc...) is protected by the fact that the environment is closed: you only get a login when you work at university or when you are subscribed officially as a student.

### *Accreditation*

Globally there are several ways in which OCW is offered. We at KU Leuven want to offer free courses that can be taken without any registration or enrollment whatsoever in order to make the barriers to take a course as low as possible. A direct consequence of this is that we cannot offer any accreditation or certification when a student fulfills an open course. We therefore assume that the intrinsic learning motivation of a student must be sufficiently high to complete a course entirely.

### *Open licensing*

One of the issues we are currently dealing with is the license we want to put on the OERs offered in the courses. An open course would not be an open course complete if it consisted only of copyrighted materials. Therefore we already decided on the use of a Creative Commons License. Creative Commons (CC) is a non-profit organization that enables the sharing and use of creativity and knowledge through offering free legal tools (Creative Commons, n.d.). Their aim is to replace the 'all rights reserved' by a form of 'some rights reserved'. The tool that CC offers, is a simple and standardized way to give content users permission to share and use creative work (e.g. education), on conditions of the content provider.

The least restrictive CC License is the 'CC-BY' License, where content users are allowed to distribute, remix, tweak, and build upon the content, even commercially, as long as they credit the content provider for the original creation (Creative Commons, n.d. ). From an idealistic point of view this is the license we should use. However we are fully aware that it is a big challenge to convince professors and teachers of the idealistic arguments. It is neither so surprising nor inconceivable that they are hesitant about offering their research and education under such a permissive license.

The most restrictive license is the CC BY-NC-ND License where content providers are only allowing others to download their content and share it with others as long as they credit the provider, but where users can't change the content in any way or use it commercially (Creative Commons, n.d. ). Since we are still investigating what the legal consequences of the different possible Creative Commons Licenses are, and since we didn't yet decide on the license to use, it's this most restrictive one that is currently the license we put on the website. Indeed, a transition to a less restrictive license is legally possible, whereas the opposite is not allowed (Creative Commons, n.d.).

As stated above we have not decided yet what license we should use. More specifically the use of KU Leuven's OERs in a commercial context, and the question whether or not users are required to share the OERs under the same license as the one we used, are points of discussion.

### *Target groups*

We already mentioned one way in which we want to address OCW to the daytime KU Leuven students, namely in the concept of the flipped classroom (see above). Another way is our hope that KU Leuven's students (and moreover students of other universities, worldwide) will use our OpenCourseWare complementary to their own courses. This could be of great value if the concerned course is a so-called 'stumble course': a difficult course with which many students struggle. Also if the lessons of a professor or teacher are not of good quality, it is a possibility to take an open course complementary to the one they take at university, in order to be empowered: a student can become

independent from his teachers. A last potential scenario is that OCW can be used to increase or to replace student mobility. The relationship between OCW and (virtual) student mobility is elaborated more in the next paragraph where there is a section about the aim to internationalize by using OCW. In this paragraph we want to describe other important target groups besides students who are studying at universities. In general, OpenCourseWare aims at a broad public, at a wider audience than only its students, hence to anyone potentially interested in either the content offered, or in KU Leuven's education.

One specific target group are the potential students of KU Leuven, who are at this point in a decision making process of what study they will start in the future. In order to get a clearer view on what it feels like to take classes at university, they can run through the academic educational resources. This could take away their doubts about university or on the contrary it could make them make a better decision based on the orientation by using or looking at OCW.

Moreover we try to describe the target groups separately for every open course. For example, an open course on lung disease could be particularly interesting for self-help groups or associations of patients with lung diseases. By communicating about the existence of OCW KU Leuven in the community of the specific target groups, we could be able to develop networks of knowledge, in which every potential stakeholder could deliver knowledge and content in order to extend the knowledge building within this knowledge network.

#### *Why opening up KU Leuven's education?*

There are several reasons why KU Leuven started with OpenCourseWare. First there is the exposure that KU Leuven wants to get from OpenCourseWare. This exposure can be seen on two levels. On the level of the institute, we want to be present in an academic world. KU Leuven indeed has a lot of expertise amongst its employees and not to make use of this expertise would be a missed opportunity since KU Leuven wants to stand for knowledge and research of high quality. Also the exposure on an individual level is an aim. It is not so much the very specialized knowledge that KU Leuven wants to show in the open courses (this expertise is publicized in the peer-reviewed journals), but it is more the basic insights, aimed at a wider audience, that are at stake.

A second reason for OCW is the impact on the Higher Education Institutes in Flanders (and beyond). It is known that e.g. in university colleges in Flanders teachers are using the contents and educational resources they received when they were students themselves. This content can be outdated by up to 20 years. By opening up the courses taught at KU Leuven, teachers and other stakeholders can make use of this state-of-the-art knowledge. After all, academic education is paid by society, so it should give something back to society.

A third motive is internationalization. Especially in the European Lifelong Learning project where KU Leuven is part of there is a strong emphasis on Student Mobility. This project seeks to investigate several scenarios and ways in which OpenCourseWare can be used to enhance student mobility. In this paper we present you the in our opinion two most important scenarios. On one hand an open course can be used to bridge the possible knowledge gap between the level of competency of a foreign student and the level the student should have acquired before going to the university abroad. It is possible that one or more courses were not part of his curriculum before going abroad. In order to cover this gap one could take an open course independently prior to his international study adventure. On the other hand, not all students are in the possibility to study abroad for several months. There might be issues when it comes to finances, health, family issues, etc... These students could take an open course at a university abroad, and thus have some insights in the contents that are taught at other universities.

A fourth reason is the potential quality control one could achieve by opening up his education. Feedback from stakeholders or from other experts within a knowledge domain reaches a professor much faster when his course is open. When this feedback reaches a professor, also his own regular students at university can benefit from that. Besides the feedback for the professor, there is also the fact that open courses setup in a very innovative and creative way will draw automatically more attention from the stakeholders and the network, so it could be a stimulant for professors to come up with fancy open courses. Striking contents or lectures are shared more, so this could affect the exposure we have elaborated in the first motive.

The fifth and final important reason to start with OpenCourseWare is networking. To us, it's very important to explicit the stakeholders of an open course. By stakeholders, we mean these people and organizations that have no formal connections to the university or its faculty, but who do have a bond with the knowledge domain of the course. It goes without saying that this could affect the promotion of the Lifelong Learning idea. Stakeholders will be in the possibility to professionalize themselves through the open courses. A good example of this professionalization is Pentalfa, a learning program aiming at Flemish physicians who are required by the government to follow accredited professionalization sessions.

In several other countries there is the important motive of widening participation to start with OpenCourseWare. In some countries, OpenCourseWare is indeed a way to make knowledge accessible for everyone. Since higher education in Flanders is already quite accessible and democratic, this was not a motive of any importance for us. Just to compare, the registration fee for one course at the Open University UK is higher than the fee that Flemish students pay to enroll at university for one academic year.

#### *Guiding students in their learning process: the use of Study Guides*

In the concept of OpenCourseWare as it is conceived at KU Leuven, course takers should be able to run through a learning process fully independently; which means that content providers should provide open course students with all the resources they need in order to fulfill a course. It is obvious that on the one hand these are the resources concerning learning content: course texts, web lectures, videos, audio, test, exercises, slides used in colleges, links to other OERs, etc...

However, offering content is not enough. An accumulation of OERs is not necessarily a course. Developing courseware requires that these OERs are offered in a didactically thoughtful sequence and that the student receives information about which steps he can take to tackle his learning process as efficiently and effectively as possible. Only then a student will in the end become a self-regulated learner.

Since we at KU Leuven decided that we don't allow our OpenCourseWare students to be in contact with their peer students nor with faculty members and authors of the course, did we develop study guides. There are two kinds of study guides that we offered to students: the general study guide and the course specific study guides.

From the homepage of OCW KU Leuven there is a link to the **general study guide** in which we provide students with a step by step guide on how to approach an open course in general. We help them to choose the right course, we show them how to use the study materials in the courses, technically as well as didactically, and finally we provide them with information about study methods. This means that we link to the existing documents that university's Service for Student Support developed for its own students, and that we give advice upon the use of certain software to e.g. annotate PDF files on a mobile device or to make digital mind maps. A study guide thus is more than an ECTS form, since we really want to guide students in their study (what's in a name?) and we

advise them how to study the proposed contents. This general study guide is complemented by an extensive Frequently Asked Questions section. Professors are being contacted frequently by students with questions about their course, so we can first of all try to setup the course in such a way that the question doesn't arise, and if it does, we'll provide an answer to it.

Given the fact that every open course has its own specificity when it comes to the way in which students give meaning to and constitute their learning process, we wanted to complement the general study guide with **course specific study guides**. In this study guides we provide the student with a more detailed insight in the content of a course and in the learning outcome that he should be able to achieve when having finished the course. This learning outcome is formulated as learning goals and competencies to be reached. The next chapters in the course specific study guides are the description of the evaluation (if there is one) and finally some hints that the authors/professors of the open course want to give concerning the learning process. Professors often have a very clear view on what they want to achieve with the students in their courses. And they often can give very valuable advice on how to reach this goal. It is this kind of advice that we want to elaborate in the description of the learning process, which is the last part in the course specific study guide.

In the future we will present the study guide in the form of videos, knowledge clips and screenshots. We feel that video is the future when it comes to providing advice, and we certainly believe that in this matter we can collaborate with the existing Service for Study Support at KU Leuven.

## **Pentalfa at KU Leuven: What and How?**

### *Foundation of Pentalfa*

The field of medical sciences is subject to rapid evolutions which makes Lifelong Learning required for everybody working in this domain. The KU Leuven Faculty of Medicine offered seminars for continuing education to its alumni, but increasing workload for physicians and the dramatic rise of problems with traffic formed a threat for attending the seminars. Other forms of education had to be investigated and in 1998 Pentalfa was initiated to replace the face-to-face seminars (Himpens, 2002). Supported by technological developments in the field of videocommunication, Pentalfa opted to offer the seminars virtually and to make use of distance education techniques to ensure facilitate permanent education (Himpens, 2002). Not only commuting problems are avoided through the use of communication technologies, but Pentalfa is also available on a larger scale, since more physicians are able to attend the seminars (Pentalfa, 2013).

### *Organization of Pentalfa*

In weekly sessions during the academic year, a multipoint videoconference is organized dealing with different medical topics, and with alternating sets of experts and audiences (Himpens, 2002). Every seminar offers the floor to several speakers who are all experts in the topic of that particular seminar. This ensures that the most recent research can be presented to the audience. The speakers do their presentations in a room especially equipped to support the videocommunication, situated in UZ Leuven, the hospital that is linked to Leuven University (BE). The presentation is streamed simultaneously to five other large hospitals spread in the Flemish region. These hospitals were selected based on their infrastructure, the level of interest and willingness to participate, and the suitability as a venue from the point of view of technical infrastructure and location. The latter enabled Pentalfa to provide a service to a widely dispersed geographic audience within Flanders (Himpens, 2002).

## **Pentalfa as OpenCourseWare**

As stated above one of KU Leuven's key roles is to spread knowledge and developments within the research domains it is active on in society. The same principle holds for OpenCourseWare: in the selection of courses to be published, we prefer courses that are suitable for a wide audience and preferably with a socially relevant subject (e.g. health, environmental studies, education,...). In our opinion Pentalfa and the contents it deals with is a socially relevant subject that offers state of the art knowledge for a domain in which many stakeholders are involved. Think of all the patient associations who are very much interested in the scientific evolutions pertaining to the diseases and health issues their members are suffering from. Merely because of this reason we are eager to have Pentalfa in our list of Open Courses: we simply believe that this Course would serve a wide audience.

### *Challenges faced in transforming Pentalfa into an Open Course*

As stated in the abstract and introduction of this paper, due to a range of reasons (of which some are specific to Medical Sciences) OCW KU Leuven is facing several issues and limitations in its attempts to publish Pentalfa as OpenCourseWare.

Most of the issues are related to copyright, for instance a large part of the speakers use graphs, images or videos in their presentation of which the source is not identified and the licence not cleared. This is not a problem as such in a closed educational environment, but becomes an issue when those recordings become public when posted online.

A second problem is that in the domain of Medical Sciences the majority of research leads to the development of medications, drugs and products that will be patented for the first several years of their production. That means that research results are not always meant to be published, let alone with an open licence. This is not only an issue when the research results in patented products but also when the findings of the research are not yet published in the domain-specific journals and publications. Accordingly, an open publication of the research is not preferred by the speakers.

A third consideration concerns cases where speakers use video or audio recordings to support their story. Indeed the items to be researched often relate to a patient who is an individual who understandably does not always want to be recognized in the context of his health problems or disorders. However, since the audience in the Pentalfa seminars are all physicians, who are used to dealing with privacy issues and with the deontology of secrecy about patients' identities, most speakers don't edit their recordings in order to make the patients unrecognizable. The consensus amongst the speakers and participants, who are all physicians, is that they will not communicate openly about the content of the recordings they saw or heard in the seminars. It goes without saying that this is rather irreconcilable with the open publication of the presentations.

The particularity of the Pentalfa situation makes it indeed rather difficult to openly publish the seminars, especially since most speakers don't have the time (or sometimes willingness) to keep the described issues in mind when presenting, nor are they capable of, for instance, edit their recordings.

### *Initiatives taken to tackle these issues*

Together with the people of the Pentalfa team, we tried to tackle the issues described above in several ways.

First of all we contacted ICRI<sup>1</sup>, the Interdisciplinary Centre for Law & ICT at KU Leuven, which is a research centre at the Faculty of Law of KU Leuven, dedicated to advance and promote legal

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<sup>1</sup> <http://www.law.kuleuven.be/icri/>

knowledge about the information society through research and teaching of the highest quality. (ICRI, 2013). Prof. Jos Dumortier, director of ICRI, advised us to compose a consent form with two aims: first of all it is necessary to inform speakers about the fact that their presentations will be recorded and to notify them that the recordings will be published online openly. In the document we explain what 'openly' means and we inform them about what will happen with the materials they will offer. A second aim is to let speakers take responsibility for the content and resources they offer, for instance when they decide to use other researcher's resources and do not take copyright into account. The same applies to patient's rights: here too it is the speaker who is accountable for what is being recorded.

The first experiences with the consent form are positive. In the spring of 2013 the document was presented for feedback to a group of doctors who found that speakers are not enough protected when they are given the responsibility for e.g. infringements and they asked to delete the corresponding article. Another suggestion they did was to give speakers the opportunity to omit certain slides from the recordings, so that they still could use them in the closed environment of the Pentalfa seminars. The document has been reformulated according to this feedback and since then only two speakers out of more than 20 did not want to sign the form. We can assume that the document will be used more often from September 2013 on.

### *Pentalfa and Creative Commons*

Since at KU Leuven we have the ambition to publish our OpenCourseWare under a Creative Commons License, we looked into the possibility to do so with the Pentalfa materials. The answer is negative. Pentalfa owns the copyrights on the recordings of the seminars and therefore we should be able to publish the recordings under a CC License. However, since the content presented in the seminar is not owned by the people of Pentalfa, but by the speakers themselves and since, given the nature of what is presented at Pentalfa, they are (for obvious reasons) not willing to publish their content under this license, neither can we.

### *State of the art*

At the time of writing we are still trying to publish Pentalfa as OpenCourseWare for about a year. We made some progress in this process but we are far from the actual publication of the recordings. The Pentalfa staff developed charters and documents to be signed by the speakers in order to inform them about the consequences of copyright infringements and or privacy issues. However, since in some cases it is hard to find speakers for the Pentalfa seminars, the unwillingness to be recorded and to take the copyright and patient privacy issues into account, makes it even harder.

### **Conclusion**

Despite the fact that Pentalfa is high on the wishlist of OCW KU Leuven, given its social relevance and the fact that it is a seminar series which is highly rated in the domain of Medical Sciences, it is a major challenge to publish the presentations as OpenCourseWare. At the same time, several of the difficulties we face are issues that can be generalized as thresholds when trying to publish a course openly, regardless of the domain. We will keep trying to overcome the described issues to be able to publish Pentalfa as OpenCourseWare.

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